

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
1 September 2005 (01.09.2005)

PCT

(10) International Publication Number  
**WO 2005/080551 A2**

- (51) International Patent Classification<sup>7</sup>: C12N 5/00 (74) Agent: MURGITROYD & COMPANY; Scotland House, 165-169 Scotland Street, Glasgow G5 8PL (GB).
- (21) International Application Number: PCT/GB2005/000518 (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (22) International Filing Date: 14 February 2005 (14.02.2005)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
0403074.8 12 February 2004 (12.02.2004) GB  
0410910.4 15 May 2004 (15.05.2004) GB  
0500869.3 15 January 2005 (15.01.2005) GB
- (71) Applicant (for all designated States except US): UNIVERSITY OF NEWCASTLE UPON TYNE [GB/GB]; 6 Kensington Terrace, Newcastle Upon Tyne NE1 7RU (GB).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): MURDOCH, Alison [GB/GB]; C/o Newcastle Fertility Centre, International Centre for Life, Newcastle Upon Tyne NE1 4EP (GB). STOJKOVIC, Miodrag [DE/GB]; c/o University of Newcastle, Institute of Human Genetics, Newcastle Upon Tyne NE1 3BZ (GB). LAKO, Majlinda [GB/GB]; c/o University of Newcastle, Institute of Human Genetics, Newcastle Upon Tyne NE1 3BZ (GB). STRACHAN, Thomas [GB/GB]; c/o University of Newcastle, Institute of Human Genetics, Newcastle Upon Tyne NE1 3BZ (GB).
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:  
— without international search report and to be republished upon receipt of that report  
— with (an) indication(s) in relation to deposited biological material furnished under Rule 13bis separately from the description
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.



WO 2005/080551 A2

(54) Title: STEM CELLS

(57) Abstract: A novel human embryonic stem cell line (hES-NCL1) is described together with a method for culturing a blastocyst and obtaining an embryonic stem cell line therefrom. Also described is the spontaneous partial differentiation of the embryonic stem cell line so obtained to produce fibroblast-like cells which act as an autogeneic feeder system to the stem cells. A novel fibroblast-like cell line hESC-NCL is described.